WILKINSON) BARKER) KNAUER) LLP

2300 N STREET, NW
SUITE 700
WASHINGTON, DC 20037
TEL 202.783.4141
FAX 202.783.5851
www.wbklaw.com

March 15, 2010

Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: *Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band* (WT Docket No. 07-293) and *Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band* (IB Docket No. 95-91) NOTICE OF ORAL EX PARTE PRESENTATION

Dear Ms. Dortch:

I am writing pursuant to Section 1.1206(b)(2) of the Commission's Rules to notify the Commission that on March 12, 2010, Jennifer McCarthy of NextWave Broadband, Inc., Kurt Schaubach of the National Rural Telecommunications Cooperative, Ron Olexa of Horizon Wi-Com, Mary O'Connor of Wilkinson Barker Knauer, and I met on behalf of the WCS Coalition with Julius Knapp, Ron Repasi, Ira Keltz, Bob Weller, Patrick Forster, Hung Le, Salomon Satche and John Kennedy of the Office of Engineering and Technology, Moslem Sawez, Jay Jackson and Linda Chang of the Wireless Telecommunications Bureau, and Chip Fleming of the International Bureau. The purposes of the meeting was to discuss the recent preliminary concepts suggested by the staff for achieving the Commission's goal of facilitating the coexistence of satellite Digital Audio Radio Service ("SDARS") terrestrial repeaters and Wireless Communications Service ("WCS") mobile broadband systems in the 2305-2360 MHz band. The following is a summary of the ensuing discussion, and the documents distributed by the WCS community are attached.

The WCS community explained its concern that, given the state of filter technology, adoption of the proposed out-of-band emissions limits at 2305 MHz and 2360 MHz could have a material adverse impact on the utility of the lower A and upper B block channels for broadband. They reported that, according to the vendor community, the proposed spectral would effectively force WCS licensees to waste the 2.5 MHz of the lower A block and the upper B block closest to the band edges as guardband because practical filters cannot achieve sufficient roll-off to meet the proposed mask absent guardband. The WCS community noted that the remaining 2.5 MHz in the lower A and upper B blocks is too narrow to support a broadband service under any of the 4G wireless broadband channel profiles that are available in the market, and that it is highly unlikely any vendor would invest the time or expense to its silicon chipsets to accommodate a "one off" United States niche service. They also pointed out that that the remaining 5 MHz available in the upper A or the lower B blocks is inadequate to support a robust broadband service, thus limiting viable WCS deployments to those markets where a given licensee can consolidate the three lower or three upper channels. The WCS Coalition also reminded the Commission staff that no participant in the proceeding had even suggested any change in the out-of-band emissions limits at 2305 MHz. The WCS Coalition suggested that the spectral masks identified in the attached documents are achievable and provide the maximum protection possible without substantial delay in WCS deployments. In addition, the parties discussed coordination zones applicable to the upper B block as a possible alternative for the proposed out-of-band emission limits. The participants also discussed applying the procedures set forth in Section 27.53(m)(6) for measuring BRS/EBS out-of-band emissions to WCS.

The WCS community also discussed with the Commission staff the implications of adopting the duty cycle limits under consideration. They noted that a system operator would, as a practical matter, have to reduce its duty cycle to the lowest permitted on any of its channels to provide for mobile handoffs. They noted, for example, that an A or B block licensee seeking to utilize both the upper 5 MHz and the lower 5 MHz would not be able to employ the 35% duty cycle assigned to the lower A and upper B channels, but instead would be constrained to operate using the 25% duty cycle assigned to the upper A and lower B channels. They pointed out that, if it were necessary for a licensee to also employ the outer 2.5 MHz of a C or D channels with the A and B channels, the duty cycle for all would be reduced to the 12.5% under consideration – a duty cycle that the WCS Coalition pointed out is not supported by any 4G standard. In addition, the WCS Coalition reiterated that the testing it conducted in Ashburn did not support the imposition of the suggested duty cycle requirements, and that the separate testing conducted by SDARS was flawed.

The participants also discussed how the proposed 5 millisecond frame for measuring the duty cycle was WiMAX 802.16e-specific, and that other 4G standards utilize other frame rates. The WCS Coalition suggested that to prevent these rules from being technology-specific, the duration be tied directly to the frame duration for the technology in use.

Finally, the concept of a WCS/DARS notification system was addressed. The WCS representatives stressed that any notification system should be simple, should be designed to provide SDARS with a "heads up" of deployments, but should not give SDARSs a vehicle for delaying the deployment of WCS by repetitively challenging base station deployments.

Pursuant to Sections 1.1206(b)(2) and 1.49(f) of the Commission's Rules, this letter is being filed electronically with the Commission via the Electronic Comment Filing System. Should you have any questions regarding this presentation, please contact the undersigned.

Respectfully submitted,

/s/ Paul J. Sinderbrand

Paul J. Sinderbrand
Counsel to the WCS Coalition

Attachments

cc: Julius Knapp
Ron Repasi
Ira Keltz
Bob Weller
Hung Le
Patrick Forster
John Kennedy
Salomon Satche
Moslem Sawez
Jay Jackson
Linda Chang
Chip Fleming

2.3 GHz WCS Band
Base Station Out of Band Emissions (OOBE) into 2360 – 2370 MHz

The following base station emissions data were derived from a FCC certification test report for a commercially available WiMAX base station developed by Alvarion Ltd. for operation in the 2.3 GHz Wireless Communications Service band[1].

BreezeMAX 2300 is Alvarion's WiMAX platform for the licensed 2.3 GHz WCS frequency band. It is a digitally modulated TDD system operating in the 2300 – 2360 MHz band with OFDM modulation. The modular base station consists of an Indoor Unit and an Outdoor Access Unit. The Indoor Unit (IDU) is the main chassis of the BreezeMAX base station, which establishes wireless network connections and manages bandwidth in compliance with the WiMAX standard. The IDU is comprised of two main units in addition to power and management components: the Access Unit, a programmable WiMAX modem card that performs radio resource management, and the Network Processing Unit that manages the base station components and all connected subscriber units. The Outdoor Access Unit (ODU) is a remote radio unit that connects to an external antenna. The ODU supports 5 MHz WiMAX channel bandwidths. Specifications for the BreezeMAX radio base station are provided in Attachment 1.

The BreezeMAX base station operates over the entire WCS band with a tuning resolution of 125 kHz. The BreezeMAX base station is certified to comply with the OOBE limit currently authorized under FCC Rule Part 27.53(a)(1). The technical characteristics of the base station transmitter are summarized in the table below.

Table 1. BreezeMAX 2300 Base Station Technical Specifications

Assigned frequency range	2305 – 2320 MHz and 2345 – 2360 MHz
Operating frequency range	2307.5 MHz, 2312.5 MHz, 2352.5 MHz, 2357.5 MHz
RF channel spacing	5 MHz
Maximum rated output power	40 dBm At transmitter 50 Ω RF output connector
Antenna connection Standard connector	N-type professional installation
Transmitter	99% power
Bandwidth	5 MHz
Type of modulation	BPSK, 4QAM, 16QAM, 64QAM
Type of multiplexing	OFDM
Modulating test signal	(baseband) PRBS
Maximum transmitter duty cycle in normal use	50 %
Transmitter duty cycle supplied for test	100 %

[1] Alvarion BreezeMAX2300 Broadband Wireless Access System, Test Report No: 8612329133, Model: BMAX-BST-AU- ODU-HP-2.3, FCC ID: LKT-BMAX-BA23

The OOBE measurements were performed in normal (transmitting) mode at all transmitted carrier (channel) frequencies of the 2305 - 2320 MHz and 2345 - 2360 MHz frequency ranges under maximum data transfer bit rate. The RF output for the device under test was connected to a spectrum analyzer through appropriate attenuator and the loss factor was accounted for with cable loss setting in the spectrum analyzer.

In Figure 1 below, observe the OOBE for 2360 – 2361 MHz, which is the first 1 MHz outside of the upper portion of the WCS band. For this measurement, the 5 MHz WiMAX carrier was centered on 2357.5 MHz, which is the center of the upper B-Block WCS channel. As indicated in the figure, the base station achieves an OOBE level of -16.6 dBm of channel power across 2360 – 2361 MHz, which corresponds to 46+10log(P) of OOBE attenuation.

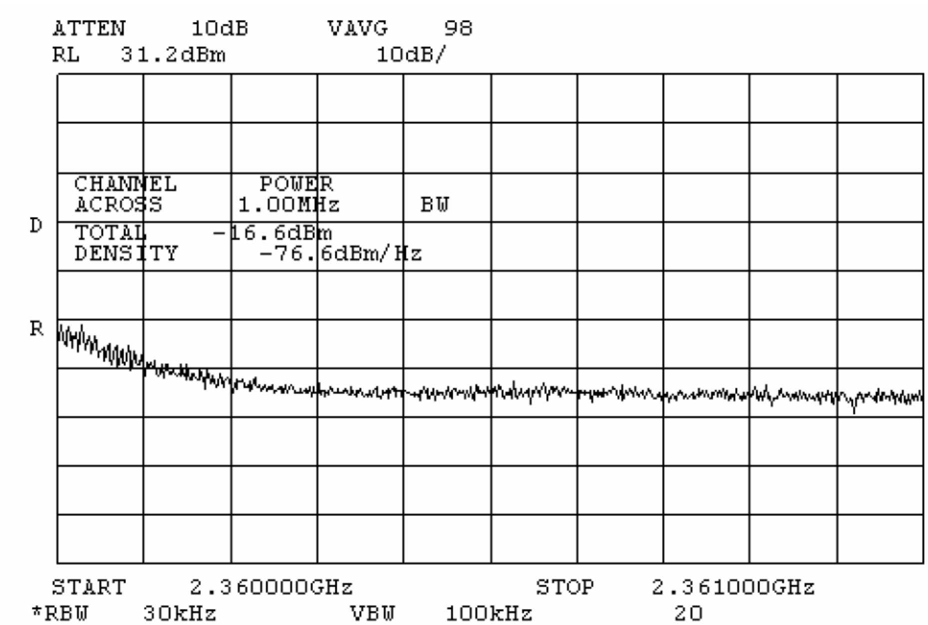


Figure 1. Base station out of band emissions from 2360 MHz – 2361 MHz with a WiMAX carrier center frequency of 2357.5 MHz

In Figure 2 below, observe the OOBE for frequencies 2370 MHz and above with the WiMAX carrier centered on the upper B-Block WCS channel. As indicated in the figure, the base station achieves an OOBE level of -44.8 dBm/MHz, which corresponds to 74+10log(P) of OOBE attenuation.

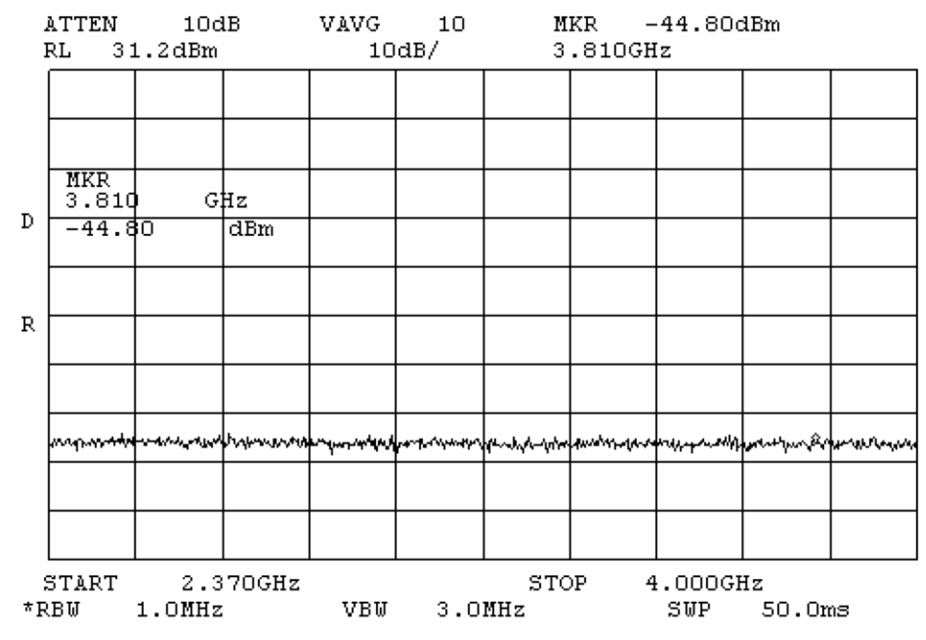


Figure 2. Base station out of band emissions from 2370 MHz – 4000 MHz with a WiMAX carrier center frequency of 2357.5 MHz.

In Figure 3 below, the 5 MHz WiMAX carrier was centered on 2352.5 MHz, which is the center of the upper A-Block WCS channel. The measurement shows the OOBE over the 15 MHz of spectrum immediately adjacent to the WiMAX channel edge. Since a specific measurement of OOBE over 2360 – 2370 MHz when the WiMAX carrier is centered on the upper B-Block channel (2357.5 MHz) is not provided in the test report, the data in Figure 3 below is considered representative of this measurement condition.

From Figure 3 we can observe that the base station achieves an OOBE level of -54.8 dBm/100 kHz, which corresponds to 74+10log(P) of OOBE attenuation, at 2365.5 MHz. Further observe that the that the base station achieves an OOBE level of -34.8 dBm/100 kHz, which corresponds to 54+10log(P) of OOBE attenuation, at 2359.5 MHz.

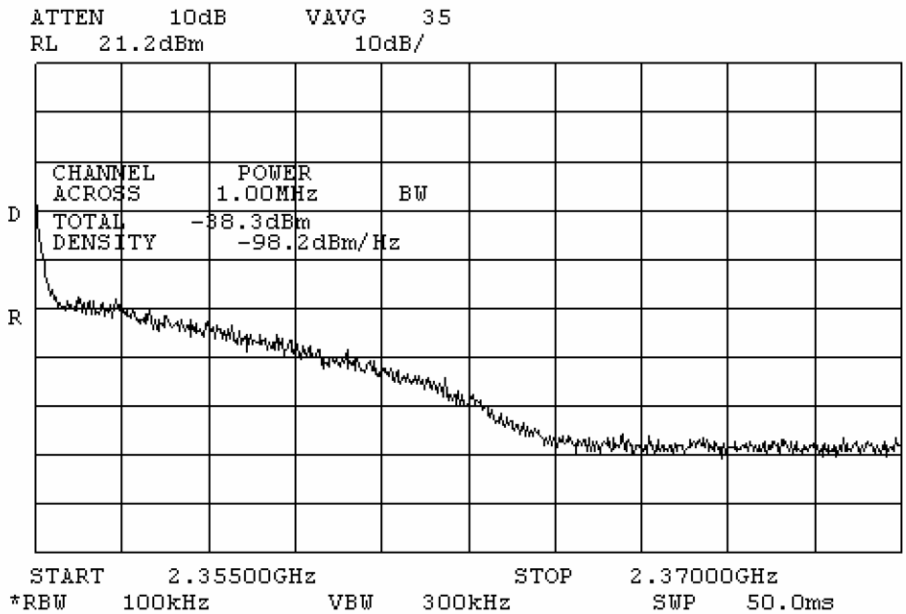
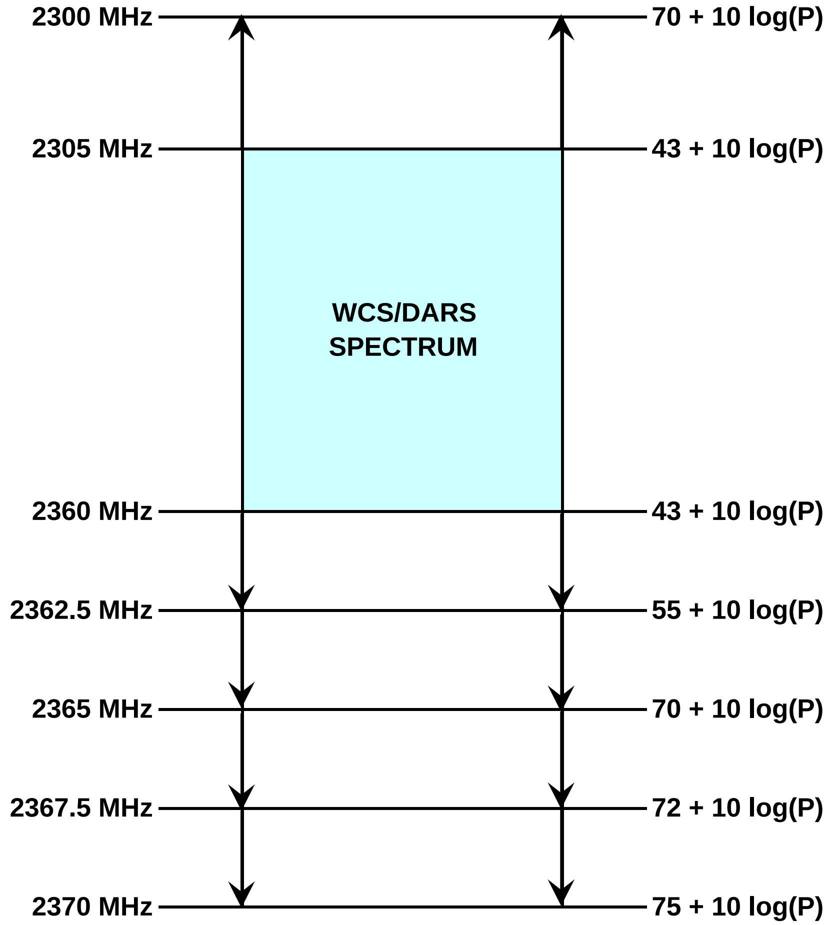


Figure 3. Base station out of band emissions from 2355 MHz – 2370 MHz with a WiMAX carrier center frequency of 2352.5 MHz

Based on the information above, the following OOBE attenuation levels are proposed for WCS base stations for frequencies above 2360 MHz:

a) 46 + 10log(P) for frequencies 2360 MHz – 2365 MHz
b) 55 + 10log(P) for frequencies 2365 MHz – 2370 MHz
c) 74 + 10log(P) for frequencies 2370 MHz and above

WCS Coalition OOBE Proposal
Fixed Stations
(Average Power)



WCS Coalition OOBE Proposal
Mobile Stations
(Average Power)